

AMENDMENTS TO THE CLAIMS:

Please amend, without prejudice or disclaimer, Claims 1-20 as follows:

1. (Currently Amended) A Superconducting cable comprising:

a support with an inner surface which defines a channel wherein a cryogenic fluid flows;

a superconducting conductor positioned externally to said support;

a cryostat positioned externally to the superconducting conductor, said cryostat including a thermal insulation enclosed between an inner tube and an outer coaxial tube; and

a protecting element positioned between the superconducting conductor and the inner tube of the cryostat; wherein the protecting element is tubular.
2. (Previously Presented) The Superconducting cable according to claim 1 wherein the protecting element provided between the superconducting conductor and the inner tube has a substantial constant thickness.
3. (Previously Presented) The Superconducting cable according to claim 1 wherein the protecting element has a smooth internal surface.
4. (Previously Presented) The Superconducting cable according to claim 1 wherein the protecting element has a firm and flexible external surface.
5. (Previously Presented) The Superconducting cable according to claim 1 wherein the protecting element comprises one or more layers.

6. (Previously Presented) The Superconducting cable according to claim 5 wherein the protecting element is made of two layers, the inner being smooth and the outer being firm and flexible.

7. (Previously Presented) The Superconducting cable according to claim 1 wherein the thickness of the protecting element is equal or greater than about 0.2 mm.

8. (Previously Presented) The Superconducting cable according to claim 7 wherein the thickness of the protecting element is between about 0.2 mm and about 3 mm.

9. (Previously Presented) The Superconducting cable according to claim 8 wherein the thickness of the protecting element is between 0.4 mm and 1 mm.

10. (Previously Presented) The Superconducting cable according to claim 1 wherein the protecting element comprises a material selected from polymeric materials, metals, carbon paper, kraft paper, and combination thereof.

11. (Previously Presented) The Superconducting cable according to claim 10 wherein the protecting element is made of polymeric material.

12. (Previously Presented) The Superconducting cable according to claim 11 wherein the protecting element is made of polytetrafluoroethylene.

13. (Previously Presented) The Superconducting cable according to claim 10 wherein the protecting element is made of copper.

14. (Previously Presented) The Superconducting cable according to claim 5 wherein at least one of the layers of the protecting element comprises at least one tape, wire, sheet or combination thereof.

15. (Previously Presented) The Superconducting cable according to claim 14 wherein the at least one tape, or sheet is positioned with juxtaposed windings or rims on the superconducting conductor.

16. (Previously Presented) The Superconducting cable according to claim 1 wherein said cable has a clamped head configuration.

17. (Previously Presented) The Superconducting cable according to claim 1 wherein said cable is cooled with liquid nitrogen at a temperature typically of from about 65 to about 90 K.

18. (Previously Presented) The Superconducting cable according to claim 1 wherein the superconducting material is an oxide of bismuth, lead, strontium, calcium, and copper.

19. (Currently Amended) A Method for protecting a superconducting material of a superconducting cable from mechanical damage resulting from contact with an inner tube of a cryostat, comprising: including a protecting element between the superconducting conductor and the inner tube of the cryostat; wherein the protecting element is tubular; and

wherein said superconducting cable comprises:

a support with an inner surface which defines a channel wherein a cryogenic fluid flows;

a superconducting conductor positioned externally to said support;
a cryostat positioned externally to the superconducting conductor, said cryostat including a thermal insulation enclosed between an inner tube and an outer coaxial tube.

20. (Currently Amended) A Current transmission/distribution network comprising:

at least one superconducting cable comprising a support with an inner surface which defines a channel wherein a cryogenic fluid flows; a superconducting conductor positioned externally to said support; and a cryostat positioned externally to the superconducting conductor, said cryostat including a thermal insulation enclosed between an inner tube and an outer coaxial tube; and

a protecting element positioned between the superconducting conductor and the inner tube of the cryostat; wherein the protecting element is tubular.